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AUTHOR	Hall, Angela M.
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ABSTRACT

Since subject indexes are extensively used in retrieval from abstracts journals it is surprising how little data is available on the performance of the many types of indexes now available. A handful of projects have been carried out in which an attempt has been made to isolate the elements which influence the performance of printed subject-indexes for manual searching and to study the extent of this influence. There are many problems involved in a project of this type and not least, those arising from the continuous interaction of the user with the index and the modification of his initial requirement in the light of the information which the index presents. For the studies reported here, the importance of the role of the user in the performance of the indexes was accepted and the reactions of the users to various characteristics of printed indexes were sought. By means of a questionnaire both information workers and scientific personnel were invited to indicate their use of different abstracts journals and indexes and to assess the characteristics of the indexes. The design of the questionnaire, choice of a representative sample of users, and the results extracted from the responses are detailed in this report. (Related studies are: LI 004106 and 004107) (Author/SJ)

ED 071703

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USER PREFERENCE IN PRINTED INDEXES

JULY 1972

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inspec
The Institution of Electrical Engineers

Savoy Place London WC2R 0BL England
Telephone: 01-240 1871 - Telex 261176
Grams: Voltampere London Telex - Cables: Voltampere London WC2

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USER PREFERENCE IN PRINTED INDEXES

ANGELA M. HALL

JULY 1972

The Institution of Electrical Engineers
Savoy Place
London WC2R OBL

SUMMARY

A study of users' preference for particular printed indexes and assessment of the characteristics of these indexes is described. The design of a suitable questionnaire and the choice of a representative sample of users are detailed. The figures and comments extracted from the questionnaires returned are then presented and discussed.

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Chapter 1

INTRODUCTION

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INTRODUCTION

Since subject indexes are extensively used in retrieval from abstracts journals it is surprising how little data is available on the performance of the many types of index now available. A handful of projects have been carried out in which an attempt has been made to isolate the elements which influence the performance of printed subject-indexes for manual searching and to study the extent of this influence. There are many problems involved in a project of this type and not least, those arising from the continuous interaction of the user with the index and the modification of his initial requirement in the light of the information which the index presents. For the studies reported here, the importance of the role of the user in the performance of the indexes was accepted and the reactions of the users to various characteristics of printed indexes were sought. By means of a questionnaire both information workers and scientific personnel were invited to indicate their use of different abstracts journals and indexes and to assess the characteristics of the indexes.

Chapter 2

PROCEDURE

Chapter 2

PROCEDURE

A search of the literature revealed much of general interest but no work that had direct bearing on the proposed study.

The survey of library and information staff

The initial stages of the study took the form of structured interviews. The library or information staff working in a number of different types of organisations both academic and industrial, were approached and a series of interviews were conducted.

The questionnaire

From the experience gained in these interviews a questionnaire suitable for mailing to library and information staff was designed (Appendix 1). It is difficult for anyone to state a preference for individual features of subject indexes in general. This problem was approached in two ways. In the first part of the questionnaire the user was asked to compare certain features, such as cross-references, in a number of the published indexes presently available. The indexes chosen for comparison all cover the subject field of Science Abstracts to a greater or lesser extent. In the second part of the questionnaire the user was asked directly for his opinions on particular features of the Science Abstracts Indexes such as the subject-index headings and the cross-references.

The choice of a sample

A sample of 150 library and information staff was selected from the subscribers to Science Abstracts in the U.K. The sample included subscribers from various types of organisation, e.g. industrial firms, government departments and colleges and universities. The number of subscribers which were selected from each type of organisation was proportional to the number of subscribers from each type of organisation in the total population of subscribers to Science Abstracts.

The questionnaire accompanied by the letter shown in Appendix 2 was mailed to the subscribers in the sample, inviting them to take part in the study. Where it

was believed that the library employed more than one qualified member of staff, additional questionnaires were included.

As a reminder to those subscribers who failed to reply to the first letter within a month, the letter shown in Appendix 3 was sent together with a duplicate copy of the questionnaire.

The survey of scientific and technical staff

The study also sought to determine the difference in the attitude towards printed indexes of the professionally-trained librarian or information officer and the scientist or engineer. For this reason a second questionnaire was designed for completion by scientific and technical staff.

The questionnaire

The questionnaire shown in Appendix 4, was similar to that completed by the information and library staff, except for the ommission of a small number of questions which were not appropriate.

The choice of the sample

Another 115 subscribers were selected to participate in this part of the study. Where the subscriber was not a member of a library staff the modified questionnaire was sent to him direct with the letter shown in Appendix 5. An alternative letter, in Appendix 6, was sent to the library subscribers together with a few copies of the modified questionnaires which they were requested to forward to scientific and technical staff of their organisation. Advantage was taken of this contact with more qualified library staff to increase the response to the first questionnaire and a copy was included in the correspondence to these librarians.

As in the first part of the study those subscribers or scientists who had not replied were reminded one month after the initial mailing of the questionnaire.

Chapter 3

SURVEY OF LIBRARY AND INFORMATION STAFF

SURVEY OF LIBRARY AND INFORMATION STAFF

RESULTS

From the 150 libraries and information centres to whom the questionnaire was first sent, a total of 99 fully- or partially-completed questionnaires were received. A further 31 questionnaires were returned completed by library staff who had been requested to encourage the support of the scientific personnel in their organisation for the second part of the study. An additional 22 questionnaires were completed on the basis of the initial interviews and so a total of 151 questionnaires were available for analysis.

In this section the basic results of the survey are presented. Some respondents did not fully complete the questionnaire and for this reason the calculations of percentages are, unless otherwise stated, based on the total number of replies received for each particular question.

Question 1. Please indicate, by a tick, those indexes and abstracts journals, in the following list which your organisation currently takes.

Total number of replies = 143

Figure I

Abstracts journal or index	Frequency of subscription
Science Abstracts	138
British Technology Index	91
Engineering Index	88
U.S.Government Research and Development Reports (Government Reports Announcements)	70
Applied Science and Technology Index	55
Nuclear Science Abstracts	48
Scientific and Technical Aerospace Reports	43
Computer Abstracts	41
Subject index to periodical articles compiled within own organisation	38
Computing Reviews	32
International Aerospace Abstracts	26
Electrical Research Association Abstracts	25

Figure II

Other journals (covering the same subject field) that are frequently subscribed to	Frequency of subscription
Metron	14
Electronics and Communications Abstracts	8
Research and Development Abstracts Bulletin	8
Solid State Abstracts	7
CEGB Digest	6
Applied Mechanics Reviews	5

Question 2. Please select the three items in Question 1 which you use most frequently for retrospective searching by subject, marking X, Y and Z alongside the ticked box.

Total number of replies = 143

Figure III

Abstracts journal or index	Frequency of sub-scription (s)	Frequency of use			
		X	Y	Z	X+Y+Z
Science Abstracts	138	46	28	25	99
British Technology Index	91	35	15	7	57
Engineering Index	88	12	32	20	64
U.S.Government Research&Development Reports (Government Reports Announcements)	70	2	5	9	16
Applied Science and Technology Index	55	9	5	13	27
Nuclear Science Abstracts	48	3	4	4	11
Scientific and Technical Aerospace Reports	43	8	4	6	18
Computer Abstracts	41	1	1	4	6
Subject index to periodical articles compiled within own organisation	38	13	2	2	17
Computing Reviews	32	2	5	0	7
International Aerospace Abstracts	26	3	5	3	11
Electrical Research Association Abstracts	25	0	0	1	1
Metron	14	2	0	1	3
Electronic and Communications Abstracts	8	0	0	1	1
Research and Development Abstracts Bulletin	8	0	0	0	0
Solid State Abstracts	7	0	0	0	0
CEGB Digest	6	0	0	1	1
Applied Mechanics Reviews	5	0	0	0	0

Figure IV

Abstracts journal or index	Percentage frequency of use			
	$\frac{x}{s}$%	$\frac{y}{s}$%	$\frac{z}{s}$%	$\frac{x+y+z}{s}$%
Science Abstracts	33	20	18	72
British Technology Index	38	17	7	63
Engineering Index	13	36	23	73
U.S.Government Research and Development Reports (Government Reports Announcements)	23	3	7	13
Applied Science and Technology Index	16	9	24	48
Nuclear Science Abstracts	6	8	8	23
Scientific and Technical Aerospace Reports	19	9	14	42
Computer Abstracts	2	2	10	13
Subject index to periodical articles compiled within own organisation	34	5	5	45
Computing Reviews	6	16	0	22
International Aerospace Abstracts	12	29	12	42
Electrical Research Association Abstracts	0	0	4	4
Metron	14	0	7	21
Electronics and Communication Abstracts	0	0	13	13
Research and Development Abstracts Bulletin	0	0	0	0
Solid State Abstracts	0	0	0	0
CEGB Digest	0	0	17	17
Applied Mechanics Reviews	0	0	0	0

Question 3. For the publications marked X, Y and Z, please indicate which you consider their good (+) and bad (-) characteristics for your use - leaving it blank where you have no strong views.

FIGURE V

These figures are calculated by substracting the number of (-) from the number of (+) for each characteristic. The index characteristics are enumerated in Figure VI.

Abstracts journal or Index	Index Characteristics								
	(I) Coverage	(II) Currency	(III) Accuracy	(IV) Ease of Use	(V) Layout	(VI) Suitable subject headings	(VII) Notification of change	(VIII) Cross Ref.	Respondents for Index
Applied Science and Technology Index	17	15	16	18	7	11	-5	11	27
British Technology Index	37	41	36	17	19	31	-2	38	55
Computer Abstracts	1	3	3	-3	1	-2	-1	1	6
Computing Reviews	5	4	4	3	4	4		0	5
Engineering Index	49	3	40	24	11	22	-11	19	58
International Aerospace Abstracts	9	5	6	4	6	3	-2	5	10
Nuclear Science Abstracts	8	4	5	8	6	6	-1	3	10
Science Abstracts	76	30	62	33	28	35	0	17	92

FIGURE V

Contd.

Abstracts journal or Index	Index Characteristics								
	(I) Coverage	(II) Currency	(III) Accuracy	(IV) Ease of Use	(V) Layout	(VI) Suitable subject headings	(VII) Notification of change	(VIII) Cross Ref.	Respondents for Index
Scientific and Technical Aerospace reports	14	8	11	8	9	6	-5	2	15
United States Government Research & Development Reports (Government Reports Announcements)	8	6	10	3	4	4	-1	0	16
Subject index compiled within own organisation	15	13	12	8	7	13	2	5	17
Metron	2	1	1	2	2	0	1	0	3
Electronics & Communications Abstracts	1	0	0	1	1	0	0	0	1

FIGURE 1

Contd.

Abstracts Journal or Index	Index Characteristics						
	(IX) Other Aids	(X) Relevant Information	(XI) Non Relevant Information	(XII) Additional Indexes	(XIII) Cumulative Indexes	(XIV) Confidence	Respondents for Index
Applied Science and Technology Index	-5	4	-7	-7	7	-3	27
British Technology Index	-7	13	4	-14	7	4	55
Computer Abstracts	-1	-1	-1	1	-1	0	6
Computing Reviews	2	2	0	3	1	1	5
Engineering Index	-3	16	0	0	4	-5	58
Int. Aerospace Abstracts	1	1	0	7	4	4	10
Nuclear Science Abs.	1	6	0	8	8	0	10
Science Abstracts	18	13	-7	34	40	6	92
Scientific and Technical Aerospace Reps.	3	2	2	11	8	4	15
U.S. Gov. Research & Dev. Reports	-2	-3	1	10	3	-2	16
Subject index compiled within own organisation	5	8	2	4	7	2	17
Metron	1	0	1	2	2	-1	3
Electronics & Communications Abstracts	0	0	0	0	1	0	1

Figure VI

The frequency with which an opinion is recorded for each characteristic.

The total no. of publications for which characteristics are rated = 349.

Index Characteristics	Number of opinions stated	Percentage of total replies
(i) Suitability of subject coverage for your interest	285	79
(ii) Currency (the index and items referred to are sufficiently up to date)	238	68
(iii) Accuracy of (indexes and items referred to)	243	70
(iv) Ease of use of index	222	64
(v) Layout of index	211	61
(vi) Suitability of subject index headings for your interests	200	57
(vii) Notification of changes in subject index headings	71	20
(viii) Cross-references in the subject index	178	51
(ix) Availability of other aids (e.g. thesaurus, classified subject headings, etc.)	86	25
(x) Probability of finding all the relevant information contained in the index	148	43
(xi) Probability of retrieving non-relevant information	89	26
(xii) Availability of additional indexes (e.g. author, conference, report number, etc.)	164	47
(xiii) Availability of cumulative index	171	49
(xiv) Confidence that you do not need to search the index any further	138	40

Question 4. Is there any index or abstract journal in some other field which you find particularly attractive/useful?

These may be found in Appendices 11 and 12.

Question 5. What are the main subject areas covered by your library or information service?

This question was included in order to obtain background information.

Question 6. To which volumnes of Science Abstracts do you subscribe?

	Number of Subscribers
Physics Abstracts (Science Abstracts A)	89
Electrical and Electronics Abstracts (Science Abstracts B)	103
Computer and Control Abstracts (Science Abstracts C)	88

Question 7. How frequently do you use Science Abstracts for retrospective searching?

Total number of replies = 129

Figure VII

	Daily	Weekly	Monthly	Less than once a month
Percentage of the total number of replies	15	31	30	24

Question 8. How difficult do you find these indexes to use?

Total number of replies = 140

Figure VIII

	Difficult	Moderately difficult	No strong impression	Moderately easy	Easy
Percentage of total no. of replies	3	20	16	41	20

Question 9. Do you consider that the terminology of the subject index headings is sufficiently up to date?

Total number of replies = 111

Figure IX

	Yes	No
Percentage of the total no. of replies	96	4

5 respondents made suggestions relating to this question. These may be found in Appendix 8.

Question 10. Do you find that some of the subject headings overlap?

Total number of replies = 89

Figure X

	Yes	No
Percentage of the total no. of replies	28	72

14 respondents made suggestions relating to this question. These may be found in Appendix 8.

Question 11. Do you normally consult the 'see also' references under the subject headings?

Total number of replies = 124

Figure XI

	Yes	No
Percentage of the total no. of replies	94	6

Question 12. Do you consider that the 'see' and 'see also' references in the subject index are adequate?

Total number of replies = 96

Figure XII

	Yes	No
Percentage of total no. of replies	87	13

9 respondents made suggestions relating to this question. These may be found in Appendix 8.

Question 13. Do you ever use the structured list of subject headings (gold pages) at the front of the subject index?

Total number of replies = 131

Figure XIII

	Yes	No
Percentage of total no. of replies	59	41

If you do, how useful do you find it?

Total number of replies = 65

Figure XIV

	Useful	Moderately useful	No strong impression	Of little use	Of no use
Percentage of total no. of replies	46	32	19	3	0
Percentage of total no. answers to first part of question (131)	23	16	9	2	0

4 respondents made suggestions relating to this question. These may be found in Appendix 8.

Question 14. Of the possible ways of scanning the entries under the subject heading, which one, or combination of those listed below do you use?

Total number of replies = 135

Figure XV

	Percentage of the total no. of replies
Make use of the alphabetical arrangement of first words (i.e. search for a particular first word)	30
Scan all the initial words (i.e. to find which word is useful)	24
Scan all the entries under the heading	63
Some other way	1

9 comments were received relating to this question
These may be found in Appendix 8

Question 15. Do you find that the number of entries under the headings you use, is, in general

Total number of replies = 128

Figure XVI

	Too few	Reasonable	Too many
Percentage of the total no. of replies	3	72	25

4 respondents made further comment on this question
These may be found in Appendix 8

Question 16 What additional information, if any, would you find useful in the subject indexes?

Total number of replies = 109

Figure XVII

	Percentage of the total number of questionnaires returned (152)
Language	43
Author	21
Source journal	20
Bibliographic form (e.g. patent, report, journal paper etc.)	43
Treatment (e.g. theory, experimental etc.)	13
Country of origin	9
Other	4

19 comments were made on this question, which included 6 suggestions of additional information.
These may be found in Appendix 19.

Question 17. The total subject field of Science Abstracts is at present divided into three parts, A,B,C. would you prefer

Total number of replies = 124

Figure XVIII

	Percentage of the total number of replies
The three parts to be unified	12
Further or alternative divisions to be made	16
The allocation of parts to remain as at present	71

22 comments were made on this question, which included 16 suggestions for additional or alternative divisions.

These may be found in Appendix 20

Question 18 How frequently would you like the subject indexes to be published? Please indicate your preference in each section: 1 (individual issues), 2 (short-period cumulations), 3 (long-term cumulations).

Total number of replies = 127.

FIGURE XIX

	Percentage of the total number of replies
1. Individual issues	
Subject index with each issue of the abstracts journal (at an increase of 40% in the abstracts journal subscription.)	20
No subject index in each issue, as at present.	62
2. Short-period cumulations	
2 six-monthly cumulations, as at present	52
1 annual cumulation (at present subscription rate	15
3 three-monthly and 1 annual cumulation (at an increase of 40% in the abstracts journal subscription)	11
1 six-monthly + 1 annual cumulation (at an increase of 25% in the abstracts journal subscription)	18
3. Long-term cumulations	
3-yearly cumulations (pro rata charges)	19
5-yearly cumulations (" " ")	50
3-or 5-yearly cumulations	6
No long term cumulations	13
4. Other combinations of short-term and long-term cumulations.	2

13 comments were made relating to this question.

Question 19 Which, if any, of the additional indexes to the abstracts journals (i.e. other than subject and author) do you find useful?

Total number of questionnaires returned = 152.

FIGURE XX

	Percentage of the total questionnaires returned
Bibliography	17
Book	13
Conference	28
Patent	9
Report	13
List of journals	7
Chapter code index	4
One or more of the indexes listed above	38

8 additional comments were received for this question, which included 10 suggestions for additional types of index. These may be found in Appendix 21.

Question 20 Are there any other changes or improvements you would like to see made to the indexes?

59 respondents commented on this question. These comments are referred to in the appropriate place in the text and corresponding Appendices.

Chapter 4

SURVEY OF SCIENTIFIC AND TECHNICAL STAFF

SURVEY OF SCIENTIFIC AND TECHNICAL STAFF

Results

A total of 29 questionnaires which were suitable for analysis were returned.

The results of this survey are presented in a format similar to that used for the survey of library and information staff, and in order that comparisons may readily be made the corresponding results from that survey are included in the figures in parentheses.

Question 1

Please give brief details of your main subject interests.

These details were collected as background information.

Question 2

How frequently do you use Science Abstracts indexes for retrospective searching?

Total number of replies = 26

Figure XXI

	Daily	Weekly	Monthly	Less than once a month
Percentage of the total number of replies	0 (15)	15 (31)	31 (30)	54 (24)

Question 3

How difficult do you find the subject indexes to use?

Total number of replies = 27

Figure XXII

	Difficult	Moderat-ely difficult	No strong impression	Moderat-ely easy	Easy
Percentage of the total number of replies	0 (3)	4 (20)	41 (16)	33 (41)	22(20)

Question 4

Do you consider that the terminology of the subject index headings is sufficiently up to date?

Total number of replies = 26

Figure XXIII

	Yes	No
Percentage of the total number of replies	100 (96)	0 (4)

Question 5

Do you find that some of the subject index headings overlap?

Total number of replies = 24

Figure XXIV

	Yes	No
Percentage of the total number of replies	21 (28)	79 (72)

Question 6

Do you normally consult the 'see also' references under the subject index headings?

Total number of replies = 27

Figure XXV

	Yes	No
Percentage of the total number of replies	82 (94)	18 (6)

Question 7

Do you consider that the 'see' and 'see also' references in the subject index are adequate?

Total number of replies = 23

Figure XXVI

	Yes	No
Percentage of the total number of replies	100 (87)	0 (13)

Question 8

Do you ever use the structured list of subject headings (gold pages) at the front of the subject index?

Total number of replies = 26

Figure XXVII

	Yes	No
Percentage of the total number of replies	42 (59)	58 (41)

If you do how useful do you find it?

Total number of replies = 11

Figure XXVIII

	Useful	Moderat-ely useful	No strong impression	Of little use	Of no use
Percentage of the total number of replies (11)	36 (46)	18 (32)	36 (19)	9 (3)	0 (0)
Percentage of the total number of answers to the first part of the question (26)	15 (23)	8 (16)	15 (9)	4 (2)	0 (0)

Question 9

Of the possible ways of scanning the entries under a subject heading, which one, or combination of those listed below do you use?

Total number of replies = 26

Figure XXIX

	Percentage of the total number of replies
Make use of the alphabetical arrangement of first-words (i.e. search for a particular first word)	15 (30)
Scan all the initial words (i.e. to find which word is useful)	23 (24)
Scan all the entries under the heading	65 (63)
Scan some other way	1 (1)

Question 10

Do you find that the number of entries under the headings you use, is, in general

Total number of replies = 26.

Figure XXXII

	Too few	Reasonable	Too many
Percentage of the total number of replies	8 (3)	88 (72)	4 (25)

Question 11

What additional information, if any, would you find useful in the subject indexes?

Total number of replies = 20

Figure XXXIII

	Percentage of the total number of questionnaires returned (29)
Language	24 (43)
Author	21 (21)
Source journal	28 (20)
Bibliographic form (e.g. patent, report, journal paper)	24 (43)
Treatment (e.g. theory, experimental etc.)	24 (13)
Country of origin	7 (9)
Other	0 (4)

Question 12

The total subject field of Science Abstracts is at present divided into three parts, A, B, C. Would you prefer

Total number of replies = 26

Figure XXXII

	Percentage of the total number of replies
The three parts to be unified?	19 (12)
Further or alternative divisions to be made?	8 (16)
The allocation of parts to remain as at present?	73 (71)

Question 13

Which, if any, of the additional indexes to the abstracts journals (i.e. other than the subject and author) do you find useful?

Total number of questionnaires returned = 29

Figure XXXIII

	Percentage of the total number of questionnaires returned
Bibliography	0 (17)
Book	7 (13)
Conference	11 (28)
Patent	4 (9)
Report	4 (13)
List of journals	7 (7)
Chapter code index	0 (4)
One or more of the indexes listed above	14 (38)

Chapter 5

DISCUSSION OF BOTH SURVEYS

DISCUSSION OF THE RESULTS

Response

In this chapter the response which was received to each of the surveys is considered and the results of each question are individually discussed.

Although the studies were carried out during the summer months when most organisations are short staffed because of holidays, a 60% response was recorded for the first study and this was supplemented by some replies from other sources.

The response by scientific and technical staff to the second questionnaire was smaller. This was expected because it was considered unlikely that the scientific and technical staff would take as much interest in the performance of printed indexes, since they are less frequently involved in their use. The success of this part of the study depended largely on the interest of both the library and scientific staff. If the librarian showed insufficient interest to pass the questionnaires to members of his organisation, then the response was immediately curtailed.

Part 1: Abstract journals and indexes in general

Abstracts journals and indexes taken
(Chapter 3, Figures I and II)

As a result of the method of selection of librarians and information staff for the survey all the respondents subscribed to Science Abstracts and consequently this publication heads the list of journals most frequently subscribed to.

British Technology Index, Engineering Index, United States Government Research and Development Reports now called Government Reports Announcements and Applied Science and Technology Index are the next most frequently taken publications. All these have a wide subject coverage which would embrace the interests of most of the respondents in this survey. Consequently these journals figure more prominently than journals which cover a specialised subject field and are of potential use to a more limited market. More detailed discussion of the particular characteristics which commend these journals will be reserved for subsequent questions where they may be considered individually.

The tendency for public libraries to subscribe to the more general publications, such as British Technology Index, Applied Science and Technology Index and Engineering Index can on the other hand be seen from details in Appendix 7. The academic libraries and industrial organisations subscribe to the more specialist journals.

Figure II lists those additional journals with which the respondents most frequently supplemented the given list. A number of these journals were intentionally omitted from the original list because they either lack a subject index or have no indexes at all, e.g. Research and Development Abstracts Bulletin and CEGB Digest. There had been no issues of Solid State Abstracts Journal for many months previous to this survey and it was expected that less use would have been made of this publication.

A number of characteristics of these supplementary journals are noteworthy. Firstly, with the exception of Solid State Abstracts and Applied Mechanics Reviews, they are all relatively cheap, i.e. costing less than £20 per annum. Secondly, three of the journals include state-of-the-art reviews in each issue, a feature which is not present in any of the publications originally listed. Reviews of this type appear in publications covering the more limited subject fields, e.g. Metron, Solid State Abstracts and Applied Mechanics Reviews, which are unique in their coverage of specific limited subject fields. The comprehensive coverage of report literature is another prominent characteristic of a number of these publications and the hard-copy-back-up service and index to conferences and exhibitions are obviously attractive features of those services which provide them.

Abstracts journals and indexes used
(Chapter 3, Figures III and IV)

The frequencies of use of the individual abstracts journals and indexes for retrospective searching are presented in two formats. In Figure III the frequency of use of each publication is displayed and shows by X, Y and Z the users' first, second and third choice respectively. In Figure IV these frequencies of use are shown as a percentage of the total number of subscriptions to that publication.

From Figure III it can be seen that the Science Abstracts publications are the most frequently used. This high usage is a consequence of the choice of Science Abstracts subscribers for participation in the survey. From Figure IV, in which the availability of each publication

is taken into account, Engineering Index is seen to come forward to a prominent position and British Technology Index similarly is frequently used by those to whom it is available. As might be expected the frequency of use is greater for the publications with a greater breadth of subject coverage because they are suitable for a larger number of searches. In general the additional publications suggested in Question I are not used for retrospective searching because, as previously mentioned, they have no indexes.

It is noticeable that British Technology Index is a "first choice" publication, with 38% of its subscribers using it more frequently than other publication. It is undoubtedly a publication which, with its specific indexing and plentiful cross references, readily lends itself to quick searches for a couple of references. Subject indexes compiled within the user's own organisation are the preferred source where available, as would be expected of an index which is tailor-made to the users' requirements.

Engineering Index on the other hand is distinctly a "second choice" publication in which a search takes longer, since it involves the scanning of lists of abstracts, but it usually provides more references.

In the same way that Engineering Index has a more exhaustive coverage of engineering topics and includes the more specialised journals than British Technology Index. Science Abstracts, Nuclear Science Abstracts and the NASA publications are correspondingly more exhaustive and include more specialised items than Engineering Index. In order that the specialised nature of an item may be adequately described the indexing must necessarily be deeper. The retrieval of a single item on a more general topic then becomes as complex as retrieval of specific items. The most usual requirement of a search is for a few items only and for this the more general indexes are most suited. The exhaustive searches for which larger publications are more suitable are less frequently required and hence these indexes are less frequently used.

It is interesting to note that the two NASA publications, Scientific and Technical Aerospace Reports and International Aerospace Abstracts, are "first and second choice" sources respectively. It will be apparent from results of Question 3 that Scientific and Technical Aerospace Reports is little different in character from International Aerospace Abstracts, and yet it is used in preference to

International Aerospace Abstracts. This is an indication that within the aerospace industry the report literature (in STAR) is considered to be of greater importance than journal articles (in IAA).

The figures for U.S. Government Reports Announcements show how this publication, which covers a very important form of literature to which access is not easily available elsewhere, is not frequently used since it occurs most commonly under Z. While report literature may not be required as often as journal ariticles the infrequent use of this publication must also be attributed to the critical assessment which it receives (Question 3).

It was noted in a previous section that public libraries subscribe more frequently to British Technology Index and Applied Science and Technology Index. These figures show in a similar way that they make greater use than average of British Technology Index and Applied Science and Technology Index and less use of Science Abstracts. Their need is for a less specialised publication with a broader subject coverage.

Characteristics of abstracts journals and indexes
(Chapter 3, Figures V and VI)

Figure V displays for each index the users' assessment of particular characteristics, each of which will be discussed individually. Figure VI lists the number of respondents who made any assessment of each characteristic regardless of the index to which it referred. It is hoped that this latter figure will give some indication of the importance which users attach to each characteristic. It is, however, realised that those questions that are easier to answer receive a greater response.

Some of the publications compared in this study are free standing with bibliographic details presented in the indexes whilst others are indexes to associated abstracts journals. The questionnaire was essentially directed towards the subject indexes but inevitably where they are an integral part of a journal the characteristics of the complete publication influence the assessments made.

(i) Suitability of subject coverage for your interests

It is to be expected that the necessity for suitable coverage will be important for all indexes at a time when budgets are limited and the use of an index must justify its cost. Suitability of coverage is a question of both subject matter and breadth of subject coverage, and therefore the publications with either

broad or specific coverage may satisfactorily fulfill this requirement, depending on the range of interests of the library. Computing Reviews shows 100% suitability of coverage, and the extremely careful selection procedure employed no doubt influences this favourable assessment. Computer Abstracts on the other hand shows a very low value. For both these publications the number of assessments made is small, 5 and 6 respectively, and no great significance should be attached to the figures.

(ii) Currency

The users' assessment of the currency of publications place Computing Reviews, British Technology Index, Applied Science and Technology Index and internally compiled indexes very favourably while the Science Abstracts Series and Engineering Index are considered to have poor currency. This can be partly explained by the fact that with British Technology Index, for instance, although a particular monthly issue may contain entries for periodical articles published during the previous month, the subscriber does not receive his copy until nearly the end of the month following the stated publication date. The currency is therefore only apparent. The production of publications which do not include abstracts should be quicker as a result of reduced processing and British Technology Index has the added advantage that its periodical coverage is restricted to the U.K. and hence the input of journals to the system is less susceptible to delay.

Indexes compiled within particular organisations for their own use normally take the form of card catalogues or are quickly reproduced using office equipment. They are therefore available for use far more quickly than a printed journal. The high rating of Computing Reviews is less easy to explain, but the coverage is predominently books and reports for which it is far more difficult to assess the speed of inclusion.

This characteristic received a large number of assessments and is obviously one to which the subscribers attach great importance.

(iii) Accuracy

Accuracy is also important to the users and all the publications appear to be reasonably accurate.

(iv) Ease of use of index

This particular characteristic is linked with a number of the others. Computing Reviews is an obvious example: it is relatively easy to use, because it has suitable subject headings, and it is accurate and current.

Computer Abstracts at the other extreme, is difficult to use, it has a poor layout, unsuitable subject headings, no cross-reference and no additional indexes or other aids to help the user. Similarly, Government Reports Announcements is difficult to use and rates poorly in all the other characteristics.

The respondents consider that Nuclear Science Abstracts is easy to use. They consider that the probability of finding relevant information is very high, it has a number of indexes in addition to the subject and author indexes, and has a liberally cross-referenced cumulative index to help the user in retrospective searching.

This assessment indicates that British Technology Index is considered difficult to use, there is a low probability of finding relevant information, and it has no additional indexes or long-term cumulations. This assessment is difficult to reconcile with the results of Question 1 which indicate its frequent use, or with the large number of cross-references included and the reasonable suitability of the subject headings confirmed in Question 3. The most feasible explanation would be that British Technology Index is, as suggested earlier, a most suitable index for recovering a single item, but less useful for comprehensive retrospective searches.

(v) Layout

Computing Reviews and the two NASA publications, Scientific and Technical Aerospace Reports and International Aerospace Abstracts are assessed as well laid out, and they are the publications with the most leading.

(vi) Suitablility of subject index headings

Computing Reviews and the internally compiled indexes have the most suitable subject index headings. This should be the case with an index tailor-made to the users' requirements. For British Technology Index the high pre-coordination of index headings undoubtedly make it easier to find a suitable heading. If, however, the index is used for a comprehensive search from which more than a few references are required, the necessity to consult a large number of index headings makes the index difficult to use. There is little difference between the remaining indexes with the exception, that is, of Computer Abstracts. One user was of the opinion that International Aerospace Abstracts and Scientific and Technical Aerospace Reports use subject index headings that are too specific and hence the relevant material is frequently scattered. Physics Abstracts on the other hand, was considered by some users to be

insufficiently specific. This latter point is discussed in greater detail in a subsequent question.

Government Reports Announcements is not considered to have suitable subject headings. It is one of the few indexes under discussion for which items are indexed under any term in a particular thesaurus rather than the customary more limited list of subject index headings. The thesaurus used in this instance is the EJC Thesaurus. The entries are therefore not drawn together in the index to the same extent as with the more limited list of headings. It was noted by one user of the NASA publications, which are indexed by any terms in the NASA Thesaurus, that the indexing appears to be drawn from words in the titles of items and that this leads to inconsistencies. This would indicate that in addition to reducing inconsistencies in indexing the shorter lists of acceptable subject index headings are more easily used.

(vii) Notification of changes in subject index headings

None of the publications notify the user of changes in subject index headings. A publication such as British Technology Index has sufficient cross-references for additional notification of charges to be unnecessary and hence it appears to be better than the other publications.

(viii) Cross-references in the subject indexes

It is not surprising that the British Technology Index with its many cross-references rates well on this characteristic, and yet Engineering Index which also has a large number of cross-references, rates less well. The cross-references in these two publications are of a different nature. The majority of cross-references in Engineering Index are 'see also' references which lead to related headings. The relationship of headings is often tenuous and the references under some headings are numerous, i.e. in one instance 80 related headings. In British Technology Index on the other hand, the indexing is more highly pre-coordinated and hence 'see' references are frequently used for inverted terms. The posting of related terms is more restricted. In this way, despite the fact that there are more cross-references in British Technology Index, they are more evenly distributed throughout the headings and the user is not confronted by so many in any one search. He is, however, more certain of finding one if it is required. This illustration serves to stress that more cross-references do not necessarily lead to ease of use and improved performance but that the optimum number and type of cross-reference is closely dependent on the specificity and co-ordination of index headings.

At first glance, it seems inconsistent that the NASA publications International Aerospace Abstracts and Scientific and Technical Aerospace Reports should rate so differently on this characteristic. In fact, the former has many 'Use' and 'Narrower Term' references, while the latter has none in the indexes in its individual issues. Government Reports Announcements falls at the bottom of the list as this also has no cross-references in the indexes to the individual issues, although it has many cross-references in the cumulative indexes. Both Government Reports Announcements and Scientific and Technical Aerospace Reports comprise a classified arrangement of entries and associated indexes. The user has the opportunity to browse through the classified arrangement of entries and so cross-references in the subject index are not essential.

(ix) Availability of other aids

Few of the publications provide additional aids to use of the subject indexes. Those that do, i.e. Science Abstracts, with its classified list and the NASA publications with their thesaurus, rate highly. Only 24% of the respondents made any assessment for this characteristic, which infers that many do not see any value in additional aids of this type. If, however, these features are made increasingly available and can be shown to be useful then this situation may change.

(x) Probability of finding all the relevant information contained in the index

Nuclear Science Abstracts appears to be the most reliable index. Previous results have indicated that it is easy to use and subsequent discussion will reveal that it is highly regarded for its additional indexes and good cumulative indexes. Internally compiled indexes and Computer Reviews are also quite reliable but the remaining publications are all rather poor. The more highly rated publications are also those which were stated to have more suitable index headings or more cross-references, and those publications which have rated poorly for all the characteristics also rate badly here.

(xi) Probability of retrieving non-relevant information

All the publications have a high probability of retrieving non-relevant information. It might be anticipated that those publications which do not provide abstracts would produce more non-relevant material. Although Applied Science and Technology Index is the worst in this respect, and noted particularly for its lack of abstracts by some users, British

Technology Index does not produce non-relevant material to the same extent, because it has a high pre-coordination of indexing terms.

(xii) Availability of other indexes

Nuclear Science Abstracts, the NASA publications and Government Reports Announcements all provide a variety of additional indexes. Science Abstracts does not rank as well as might be hoped, although it does provide a number of indexes of this type. Appendix 9 indicates those types of indexes which are provided by the higher ranking journals. The two most important of these which are not provided by Science Abstracts are the report number and the corporate author indexes. Science Abstracts provides four indexes which are rare, i.e. conference, bibliography, book and patent indexes, which are of great value to those who use them.

(xiii) Cumulative indexes

The figures confirm that Nuclear Science Abstracts and Scientific and Technical Aerospace Reports have particularly good cumulative indexes with plenty of cross-references which their short-term indexes do not contain. Science Abstracts is one of the few services providing long-term cumulations covering 3 or 5 years. A few users stated that they thought cumulative indexes to be unnecessary, but approximately half the respondents consider this characteristic sufficiently important to make some assessment.

(xiv) Confidence that you do not need to search the index any further

The users lack confidence in all these publications, with the possible exception of the NASA publications. As there is only one characteristic for which the NASA publications both rank well, it would appear that this characteristic, good layout, strongly influences the confidence with which an index is used. Of the two indexes which appear to be particularly poor, Government Reports Announcements registered a poor rating throughout, but the other, Engineering Index, rates reasonably well in most characteristics. It is in currency, notification of change, additional indexes and cumulative indexes that this index is poor, but it is not clear in what way these affect the confidence with which it is used or whethersome other feature has the greatest influence.

The questions of confidence and ease of use receive more subjective opinions than any of the other characteristics, although individual properties of the index may sometimes strongly influence the user's views. In general, the

assessments of these two characteristics are dependent on an overall impression of the index. It is not possible to express this in terms of the other characteristics.

(xv) Other characteristics

A few additional characteristics not included in the given list are given in Appendix 10 with the journal to which they refer.

Attractive/useful features of other abstract journals or indexes
(Chapter 3, Question 4)

Respondents were requested to cite any publications in other subject fields which they considered to be useful or attractive and these are listed in Appendix 11. Some of these have been mentioned in previous discussions. The majority of the publications were considered to be useful because they covered the subject field most suited to the respondents' work, but those publications which were considered attractive for some other reason are shown in Appendix 12 together with a summary of their attractive characteristics.

Chemical Abstracts is by far the most popular journal. It has an extremely comprehensive coverage. From the summary of the arrangement of abstracts it is not obvious that there is a coverage of physics literature, but when the detailed subject indexes are consulted, the extensive coverage of this material can be appreciated. The indexes maintain a high standard and are easy to use. They include a keyword index in each issue, together with a number of other useful indexes.

Metals Abstracts is also said to provide good subject indexes.

These again are included in every issue and are rapidly cumulated into an annual volume. The index headings are taken from the ASM Thesaurus and are supplemented by a considerable number of automatically generated cross-references.

A completely different approach to literature searching is offered in Science Citation Index, and a few respondents find this attractive. It is, however, not really comparable with the subject indexes.

British Humanities Index was commended on its layout which is spacious and easy to read.

A number of reasons for the choice of the other journals recurred frequently. Suitability of subject field was the most common, but exhaustivity of coverage, layout of the publication, good indexing, currency and cumulative indexes were repeatedly mentioned. A number of comments were made on the quality of abstracts in various journals but there was no concensus of opinion on the required properties of abstracts.

Part II: Science Abstracts Indexes

Frequency of use of Science Abstracts Indexes
(Chapter 3, Figure VII: Chapter 4, FigureXXI)

As would be expected, more frequent use is made of the Science Abstracts Indexes by library and information staff than by the scientific or technical staff. However it can be seen from Appendix 13 that the type of organisation, i.e. public, academic or industrial library, in which the library or information staff work, has no influence on the frequency with which the Indexes are used. They are used as frequently in the public libraries as in academic libraries.

Ease of use of Science Abstracts Indexes
(Chapter 3, Figure VIII: Chapter 4, Figure XXII)

There are a significant number of library and information staff who experience some difficulty in their use of Science Abstracts, but amongst the scientists who replied there was only one who indicated that he found any problem of this kind. The scientist generally has more limited subject interests and once he has located appropriate subject index headings, he will consult these headings for the majority of searches that he makes. The information staff, on the other hand, are concerned with a wider subject field and need to make use of more subject index headings. They also have a less specialised knowledge of the terminology.

It might have been expected that the more frequent users of the indexes would find them easier to use, but it appears that the scientists, the less frequent users, have the least difficulty (Figures VII and XXI).

An attempt was made to determine whether there is any correlation between the frequency and ease of use of the indexes. Appendix 14 shows the relationship which exists in Part I. There is a tendency for the more frequent user to find the index easier to use, but the converse is not true, i.e. the less frequent user does not find it more difficult, and therefore it cannot be said that any correlation exists. Possibly the library and information staff who use the indexes less frequently and the scientists who also make less extensive use of the indexes are not sufficiently familiar with them to recognise any short-comings.

It is noticeable that many more scientists than information staff have no strong opinions concerning their use of the indexes. This is, in part, a consequence of less frequent use, but also indicates a greater interest in the material retrieved than in the mechanics of the search. The information staff take a professional interest in the tools which they use.

This question has emphasised the difficulty experienced in the use of the indexes and the greater difficulty of the library and information staff. In the course of discussion of subsequent questions, additional reasons for this problem will be investigated.

Currency of the terminology of the subject index headings (Chapter 3, Figure IX: Chapter 4, Figure XXIII).

Virtually all the respondents consider that the terminology of the subject index headings is sufficiently up-to-date. The scientists are most familiar with the terminology in their own subject fields and they find the present headings satisfactory. The information staff have experience of a wider range of subject headings and a number made useful suggestions for the improvement of the headings.

It was commented that the headings used are neither up-to-date nor outdated, because they are not sufficiently specific to include headings which reflect modern developments. This view was corroborated by other users who suggest the introduction of a number of more specific headings and sub-headings. Of particular pertinence to the question of keeping abreast of modern developments was the suggestion that the names of manufacturers, computers and other equipment should constitute subject index headings. These are areas in which frequent changes would be necessary in order to prevent rapid obsolescence. As remarked by one respondent, it is this frequent change in headings which tends to make retrospective searching difficult and a balalnce must be maintained between consistency and

up-to-dateness. The request for more specific headings was by no means unanimous and some respondents took the opposing stand.

Overlap of subject index headings
(Chapter 3, Figure X: Chapter 4, Figure XXIV)

The number of users who noticed any overlap of the index headings was less than might have been anticipated. There was a definite awareness on the part of many users that some overlap was inevitable if all the users requirements are to be met and they are therefore prepared to search under more than one heading. If more index entries could be made for each item, failures to retrieve documents as a result of this overlap may be reduced. The disadvantage of this aproach is however that it would increase the number of entries under each heading which is at present large for some headings. Only if an efficient means of entry selection is available will multiple entries improve the performance. The provision of more cross-references is an alternative means of reducing failures of this type, but it is first necessary to consider the use made of the present cross-references and the attitudes of the users toward them.

Use of 'see also' references
(Chapter 3, Figure XI: Chapter 4, Figure XXV)

The majority of users take advantage of the help offered by the index in the form of 'see also' references, and there are too few non-users to see any correlation or lack of correlation between the frequency of use of the indexes and use of the 'see also' references.

Appendix 15 shows the relationship between use of the cross-references and ease of use of the indexes. The respondents who do not use the 'see also' references do not find the indexes particularly difficult to use. Presumably the user who has no difficulty in searching the index does not consider it necessary that he should use them, and the scientist concerned only with a limited number of headings has no need of them. What is more important is that a significant number of users are consulting the 'see also' references and are still finding the indexes difficult to use. The user who is having difficulty will usually make use of the assistance offered. These results are an indication that the present system of cross-referencing is insufficient in itself as an aid to the user of the indexes. The introduction of more cross-references may help but is not necessarily the answer. The discussion of Question 3 characteristic (viii) indicated that the introduction of the wrong type of cross-referencing or too numerous cross-references can be determinal. It may be that other aids such as thesauri and structured lists could be more satisfactory.

Adequacy of the cross-references
(Chapter 3, Figure XII: Chapter 4, Figure XXVI)

It was mentioned in the previous section that the introduction of additional cross-references is not necessarily the best method of making the indexes easier to use. The results confirm that the users think that the cross-references are adequate. One might again attribute the scientists' complete satisfaction to their command of the terminology in their own subject field and hence their lack of difficulty in locating appropriate headings.

Such additional cross-referencing as is required is for the use of the library and information staff and while more cross-references from the specific to the more general headings has been suggested, on the whole an increased number of cross-references is not the help which is really required.

Use of the structured list of subject index headings (gold pages)
(Chapter 3, Figures XIII & XIV: Chapter 4, Figures XXVII & XXVIII)

Far less use is made of the structured list of index headings than is made of the cross-references. The most obvious explanation for this is that while cross-references are noted easily during a search, additional effort is required to locate and study the structured list.

The limited use of the gold pages could also be attributed to a proportion of users being unaware of the existence of usefulness of the list. Although the indexes may be frequently used without knowledge of the existence of the list, this is to some extent refuted by the figures shown in Appendix 16 from which it can be seen that less frequent users of the index make only slightly less use of the list. The need to use the list is similar because the less frequent user is unfamiliar with the headings used and the more frequent user has more varied subject interests requiring the use of previously unexplored headings.

While the majority of people who use the list find it helpful (Appendix 17) they are only a minority of the total number of respondents. They are more often the library and information staff than the scientists. The librarian's training has taught him the potential value of search tools of this type and their lack of specialised subject knowledge results in a greater need to use them.

This would tend to suggest that search tools of this type should be designed largely for use by librarians and information workers. In which case the classified arrangement may be too much subject-orientated and a more useful format may be an extensive alphabetically-

arranged lead in vocabulary.

Scanning of entries
(Chapter 3, Figure XV: Chapter 4, Figure XXIX)

A substantial number of users make some use of the alphabetical arrangement of selected keywords in the modifier lines. Of the scientists who do so, almost all rely entirely on this method, but the majority of information staff use them only for a preliminary search before scanning the complete list of entries. Because a number of users employ a combination of methods the figures given total more than 100%.

The difference of approach of the two types of user, while partly one of greater confidence in the indexing on the part of the scientists is probably also a function of the fact that in many instances the scientist requires only a few relevant items while a librarian demands higher recall.

In view of the large number of entries under some headings the alphabetical arrangement of keywords can be time-saving. However, it is not always possible to satisfy the requirements of all users with a single keyword for each record. Different aspects of a document are of interest to different users and a number of keywords can be used for a single concept. If each alternative is to be included the number of entries under each heading will be greatly increased, and this could only be tolerated if the keywords were sufficiently reliable to be used on every occasion and if all users are able to make satisfactory use of them. Parallel INSPEC studies have indicated that this approach is not always possible.

Number of entries per heading
(Chapter 3, Figure XVI: Chapter 4, Figure XXX)

It was expected that the answers received from this question would be closely related to those of the previous one. That is, the users who do not make use of the alphabetical arrangement of keywords would consider that there are too many entries under many of the subject index headings. The comparison of the assessment made by information staff and scientists illustrates this point. The scientists rely solely on the alphabetic arrangement of key words and only one of them considers that there are too many entries. The information staff, on the other hand, usually scan the whole list and it is from amongst this type of user that the assessment of too many entries has been received. In Appendix 18 those information staff who use the alphabetical arrangement find, only slightly less frequently, that the lists of entries are too long; but the majority of these users also scan the

complete list as an insurance against unreliable initial words and so only a minimum difference in the assessment would be expected.

The majority of users considered that, in general, the number of entries is reasonable, a significant proportion find that there are too many, but a mere four considered that there are too few entries. Strict control must obviously be kept to prevent the number of entries from increasing. For while the number of entries in the semi-annual volumes may be reasonable, the lists in the long-term cumulative indexes soon become unmanageable.

Additional information in the indexes
(Chapter 3, Figure XVII: Chapter 4, Figure XXXI)

The details of each paper which are given in the index entries may vary in depth of description from a location number for an abstract to the complete bibliographic reference and possibly an abstract. The latter type are generally the most convenient for the user but if a large number of records are to be indexed exhaustively this is not economic. The full abstract and bibliographic details could not be provided as a free-standing index to a publication the size of Science Abstracts. This question was included in order to determine whether any information in addition to that given at present in the index would be of assistance to the user. Response ranged from satisfaction with the present arrangement to requests for the full bibliographic details. The most common requirement was for some indication of the bibliographic form of an item and its language. In both cases the extra details would obviate the retrieval of items which cannot be easily obtained or used. It is interesting to note that the scientists do not consider the language of an item to be particularly important.

A number of details were suggested in addition to those listed in the question and these are presented in Appendix 19.

Allocation of the subject field of Science Abstracts
(Chapter 3, Figure XVIII: Chapter 4, Figure XXXIII)

The majority of users are in favour of the retention of the present partition of the subject field of Science Abstracts, and there seems little point in considering any wholesale re-allocation of the parts. A number of the users who generally cover a wide subject field, i.e. academic and public libraries, show an interest in the unification of the field, but it is a small proportion.

A number of subscribers are dissatisfied, because with the size of the existing parts they are paying for a lot of material which they do not require, and suggested additional subdivisions. These suggestions, listed in Appendix 20, were very similar. Within Electrical and Electronics Abstracts it was suggested that power engineering could constitute a separate section and that electronic and electrical engineering are sufficiently distinct to be separable. For Physics Abstracts there is a call for solid state physics, nuclear and atomic physics and astrophysics, each as a separate section. The only suggestion made for Computer and Control Abstracts is that the computer and control parts should be available separately.

The user who commented that no part should cost more than £50 is a representative of the users who consider that price is the over-riding factor in the choice of abstract journals. This is not substantiated by the cost of the journals most frequently subscribed to in Question 1.

Limitations in resources have the effect of reducing the number of abstracts journals and indexes taken and not of changing to publications of a lower quality.

Frequency of the indexes
(Chapter 3, Figure XIX)

The current frequency of journals is generally satisfactory. A substantial number of subscribers do indicate that they would like monthly subject indexes but they add the proviso that they are not prepared to pay the additional subscription.

Concerning the short-period cumulations, the present system is again the most acceptable, although the other possibilities all received some support.

There is sufficient need for long-term cumulations for these to be continued with a preference made for a 5-yearly rather than a 3-yearly publication.

Additional indexes
(Chapter 3, Figure XX: Chapter 4, Figure XXXIII)

It would not be expected that the additional indexes would be used as frequently as the subject and author indexes because they are more specialised. The specialised approaches are directed towards the librarian's usage. For example the bibliography index is found by the librarians to be valuable but the scientists have no use for it.

A number of the information staff did not find these indexes to be of any value. While not all of them may have any use for any of the indexes, users comments supply some clues to other reasons why they are not used. It would seem that unless patent literature is comprehensively covered that a patent number index is of limited use. The long delays in the publication of conference proceedings is one of the deterrents to use of the conference index although this is the most frequently used of the additional indexes.

Appendix 21 lists other indexes which users suggested that they would find helpful. The most frequently requested is a report number index, and as discussed in Question 3, this is one of the attractive features of some other popular abstracts journals. The numerical approach to the report literature may be as important as the corporate author entries. In general these additional indexes will be used for source checking, an activity for which the subject index would not normally be used. Other suggestions of particular interest were the indexes to acronyms, equipment, computers, manufacturers and named methods.

Chapter 6

CONCLUSIONS

CONCLUSIONS

Abstracts journals and indexes in general

The response to this study has clearly illustrated how different features of the publications influence the performance of their indexes and user preferences for various characteristics.

The abstracts journals and indexes most frequently subscribed to are those which have a wide subject coverage. These publications have a suitable coverage for the greatest number of users and it is the suitability of coverage and the cost which are the critical factors in the choice of abstracts journals and indexes.

Of the publications other than Science Abstracts to which the respondents subscribed, Engineering Index and British Technology Index are used the most frequently. British Technology Index is referred to most frequently as a first choice, probably because a couple of relevant references can be quickly located. Engineering Index, on the other hand, is more frequently used as a second choice for a more extensive search. More references are available in this journal but a search takes much longer.

Suitability of subject coverage, currency and accuracy are considered to be the most important features of an abstract journal or index. Coverage of report literature also figures prominently, particularly in the aerospace industry where it appears to be of greater importance than journal articles.

The NASA publications inspire greatest confidence in their users and it would seem that this opinion is encouraged by the good layout of both the abstracts and indexes. There is no single characteristic which makes an index particularly easy to use, but as might be expected, suitable subject headings, cross-referencing and additional indexes are all important.

The users' assessments indicate that a lack of tight control on the subject index headings, i.e. an unlimited list of headings, is detrimental to the index. Cross-references are appreciated but the type used is very important and long lists of related headings are not helpful. None of the publications give any notification of changes in the subject index headings, but in indexes where the cross-referencing is good this is not necessary.

Users do not seem to attach much importance to additional aids to the use of a subject index such as thesauri and the INSPEC structured list of subject headings. Features of this type are still quite uncommon and little use is made of those which exist.

Indexes other than author and subject indexes have some use, and report number, conference and corporate author indexes are recurring features of the publications which were considered to possess good additional indexes.

State-of-the-art reports and hard-copy back-up services, are also attractive features in the more popular journals

Science Abstracts

There are a significant number of subscribers who find Science Abstract Indexes difficult to use, and these are not necessarily infrequent users of the indexes.

A large number of subscribers are of the opinion that the currency of Science Abstracts is ppor in comparison to some similar publications. This is often only an apparent delay since Science Abstracts is published more promptly to the stated date of publication than many other abstracts journals and indexes. In addition, unlike some publications, the coverage is international and foreign papers are received by INSPEC less promptly than British material.

The layout is also considered, by many subscribers, to be comparatively poor, but a more spacious format, which would obviously be prefered, cannot be achieved for such a large number of entries, if a reasonable cost is to be maintained.

Users find the subject index headings are up-to-date but that they are insufficiently specific to be affected by changes in terminology. In some subject areas, an increase in the specificity of headings or the inclusion of more "see" references was requested. The inclusion of manufacturers' names and equipment as subject index headings was also suggested, but these would be susceptible to frequent alteration. Some subject index headings are considered to overlap, but many users recognise that this is inevitable.

Of the two features of the indexes which are intended to help the user, one, the cross-referencing, is generally used, but less use if made of the other, the structured list of subject index headings. The cross-references are thought to be adequate but they obviously do not

provide sufficient assistance, since many people who use them still find the indexes difficult to use. The provision of additional cross-references would in some cases be appreciated, but is not necessarily the solution to the problem. The structured list of subject index headings offers an alternative approach if the users both frequent and infrequent were more aware of its presence and of its potential. A more detailed list, alphabetically arranged, might also help.

A significant number of people make use of the alphabetical arrangement of the initial words of the modifier, but these are often found to be unreliable. In the situation where the initial words are unreliable, the number of entries under some entries is too great for convenient scanning. Some indication in the indexes of the bibliographic form and language of an article would be appreciated by a significant proportion of the users.

The present division of the subject field of Science Abstracts into Series A, B and C is satisfactory for the majority of subscribers, but there are a number of subscribers who do not require the total material in the present journals and would prefer subsets at lower cost.

Cost is also a prime consideration in the choice of the frequency of publication of the indexes. Although a number of subscribers would like more frequent indexes, very few would be prepared to pay the inevitable increase in subscription.

Limited use is made of the additional indexes despite the fact that some are comparatively rare. However, those who use them find the conference and bibliography index particularly useful. A number of additional indexes are suggested including indexes to report numbers, corporate authors, acronyms, equipment, manuafacturers and named methods, a patent index arranged by company and patent concordance. While it may not be feasible to include these indexes in the journal itself, some may constitute saleable by-products of the INSPEC system, if the complete references and possibly the abstracts were also provided.

Comparison of types of user

There is no significant difference in the abstracts journals and indexes taken by different types of organisation nor in their use of Science Abstracts.

The library and information staff tend to have stronger opinions concerning the performance of the indexes and frequently find the indexes more difficult to use. They do, however attempt to remedy this by making more use of the cross-references, structured list of index headings and the additional indexes.

The scientists on the other hand are more satisfied with the present state of the indexes, and consider the subject index headings and cross-references to be adequate. They have greater confidence in the indexing and the cross-referencing, and in the initial words of the modifiers, and do not find the same need as the information and library staff to check under alternative headings or index terms. The scientists who completed the questionnaire may not be entirely respresentative because they are undoubtedly the few scientific users who take an interest in the user of the abstracts journals. However the study indicates that the scientist does not find use of the indexes as difficult as is frequently assumed, but the library and information staff who lack the specialised subject knowledge find difficulty and require some further help.

APPENDICES

INDEXES TO ABSTRACTS JOURNALS AND SIMILAR PUBLICATIONS

(Assessment by library and information staff)

If you carry out literature searches (however rarely) using the indexes to Science Abstracts or similar publications, we should be grateful if you would complete this form, or as much of it as is applicable, giving your personal views rather than those of your colleagues or your organisation. Please feel free to add or make extra comments to any question.

Part I Abstracts and indexes in general

1. Please indicate, by a tick, those indexes and abstracts journals, in the following list, which your organisation currently takes.

☐ Applied Science and Technology Index

☐ British Technology Index

☐ Computer Abstracts

☐ Computer and Control Abstracts (Science Abstracts C)

☐ Computing Reviews

☐ Electrical and Electronics Abstracts (Science Abstracts B)

☐ Electrical Research Association (ERA) Abstracts

☐ Engineering Index

☐ International Aerospace Abstracts

☐ Nuclear Science Abstracts

☐ Physics Abstracts (Science Abstracts A)

☐ Scientific and Technical Aerospace Reports

☐ United States Government Research and Development Reports (Government Reports Announcements)

☐ A subject index to periodical articles compiled within your organisation (printed or on cards)

Any others covering the subject field of physics, electrotechnology and control (Please list).

☐

☐

☐

2. Please select the three items in Question 1 which you use most frequently for retrospective searching by subject, marking them X, Y and Z alongside the ticked box.

3. For the publications marked X, Y and Z, please indicate which you consider their good (+) and bad (-) characteristics for your use - leaving it blank where you have no strong views.

		X	Y	Z
(i)	suitability of subject coverage for your interests			
(ii)	currency (the index and items referred to are sufficiently up to date)			
(iii)	accuracy (of indexes and items referred to)			
(iv)	ease of use of index			
(v)	layout of index			
(vi)	suitability of subject index headings for your interests			
(vii)	notification of changes in subject index headings			
(viii)	cross-references in the subject index			
(ix)	availability of other aids (e.g. thesaurus, classified subject headings, etc.)			
(x)	probability of finding all the relevant information contained in the index			
(xi)	probability of retrieving non-relevant information			
(xii)	availability of additional indexes (e.g. author, conference, report number, etc.)			
(xiii)	availability of cumulative indexes			
(xiv)	confidence that you do not need to search the index any further			
(xv)	please state any other characteristics			

4. Is there any index or abstract journal in some other field which you find particularly attractive/useful?

What particular aspects do you find most attractive/useful?

5. What are the main subject areas covered by your library or information service?

Part II Science Abstracts Indexes

6. To which volumes of Science Abstracts do you subscribe?

	Years held from	to
Physics Abstracts (Science Abstracts A)		
Electrical and Electronics Abstracts (Science Abstracts B)		
Computer and Control Abstracts (Science Abstracts C)		

7. How frequently do you use Science Abstracts indexes for retrospective searching?

_____times a *day/week/month/year

* Please delete as appropriate.

8. How difficult do you find these indexes to use?

- difficult ☐
- moderately difficult ☐
- no strong impression ☐
- moderately easy ☐
- easy ☐

9. Do you consider that the terminology of the subject index headings is sufficiently up to date? Yes ☐ No ☐

If not, please give examples of outdated headings.

10. Do you find that some of the subject index headings overlap? Yes ☐ No ☐

If you do, please give examples of any overlapping headings.

11. Do you normally consult the 'see also' references under the subject index headings? Yes ☐ No ☐

12. Do you consider that the 'see' and 'see also' references in the subject index are adequate? Yes ☐ No ☐

If not, please give examples:

13. Do you ever use the structured list of subject headings (gold pages) at the front of the subject index? Yes ☐ No ☐

If you do, how useful do you find it?

- useful ☐
- moderately useful ☐
- no strong impression ☐
- of little use ☐
- of no use ☐

14. Of the possible ways of scanning the entries under a subject heading, which one, or combination of those listed below do you use?

- ☐ make use of the alphabetical arrangement of first words (i.e. search for a particular first word)
- ☐ scan all the initial words (i.e. to find which word is useful)
- ☐ scan all the entries under the heading
- ☐ some other way (please describe)

15. Do you find that the number of entries under the headings you use is, in general:

- too few ☐
- reasonable ☐
- too many ☐

16. What additional information, if any, would you find useful in the subject indexes?

- language ☐
- author ☐
- source journal ☐
- bibliographic form (e.g. patent, report journal paper, etc.) ☐
- treatment (e.g. theory, experimental, etc.) ☐
- country of origin ☐
- other (please state) ☐

17. The total subject field of Science Abstracts is at present divided into three parts, A, B, C. Would you prefer

☐ the three parts to be unified

☐ *further or alternative divisions to be made

☐ the allocation of parts to remain as at present

If * please suggest any alternatives.

18. How frequently would you like the subject indexes to be published? Please indicate your preference in each section: 1 (individual issues), 2 (short-period cumulations, 3 (long-term cumulations).

1 Individual issues

☐ subject index with each issue of the abstracts journal (at an increase of 40% in the abstracts journal subscription)

☐ no subject index in each issue, as at present

2 Short-period cumulations

☐ 2 six-monthly cumulations, as at present

☐ 1 annual cumulation (at present subscription rate)

☐ 3 three-monthly and 1 annual cumulation (at an increase of 40% in the abstracts journal subscription)

☐ 1 six-monthly + 1 annual cumulation (at an increase of 25% in the abstracts journal subscription)

3 Long-term cumulations

☐ 3-yearly cumulations (pro rata charges)

☐ 5-yearly cumulations (" " ")

☐ no long term cumulations

4 Other combinations of short-term and long-term cumulations, please state.

19. Which, if any, of the additional indexes to the abstracts journals (i.e. other than subject and author) do you find useful?

20. Are there any other changes or improvements you would like to see made to the indexes?

Date ..... Signed .....

We are most grateful for your help.

Please return the form to:

The Secretary
The Institution of Electrical Engineers
Savoy Place
London WC2R OBL

APPENDIX 2

LETTER TO LIBRARY AND INFORMATION STAFF INVITING PARTICIPATION

INSPEC
The Institution of Electrical Engineers
Savoy Place London WC2R 0BL Tel: 01 240 1871 - Telex 261176
Grams: Voltampere London Telex - Cables: Voltampere London WC2

Dear Sir,

As part of our OSTI-supported research and development programme we are investigating the use, acceptability and performance of the printed indexes to our abstracts journals.

We should be most grateful for your assistance in our study by having the enclosed forms completed by yourself and any member of your staff who carries out literature searches, using indexes to Science Abstracts and similar abstracts journals. We should like each person to give his own views only and fully expect differing views from the same organisation.

While there seems little point in making the form anonymous, no answers will be attributed either to the individual or to the organisation in any publication or communication.

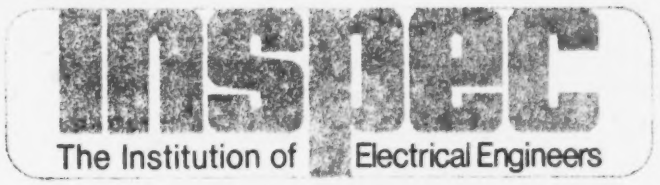
We hope that you will be willing to help us and to encourage your staff to assist also. Reply-paid labels are enclosed.

Yours faithfully,

A.M. Hall (Miss)
Information Research Assistant

Encs.

APPENDIX 3
REMINDER TO LIBRARY AND INFORMATION STAFF



Savoy Place London WC2R 0BL Tel: 01-240 1871 – Telex 261176
Grams: Voltampere London Telex – Cables: Voltampere London WC2

Dear Sir,

We recently sought your help in a survey of the use and performance of the printed indexes to Science Abstracts.

We hope that you will not mind us jogging your memory in this way since your reply is important to the investigation on which we are engaged.

In case the previous questionnaire has gone astray we enclose a second copy which we hope you can find time to complete and return.

Yours faithfully,

A.M. Hall (Miss)
Information Research Officer

Enc.

APPENDIX 4

INDEXES TO ABSTRACTS JOURNALS AND SIMILAR PUBLICATIONS
(Assessment by scientific and technical staff)

We are investigating the use, acceptability and performance of the indexes to Science Abstracts. If you carry out literature searches using these indexes, we would be grateful if you would complete as much of this form as you can, giving your personal views rather than those of your colleagues or your organisation. Please feel free to add or make extra comments to any question.

Part A Science Abstracts Indexes

1. Please give brief details of your main subject interests.

2. How frequently do you use Science Abstracts indexes for retrospective searching?

   _____ times a *day/week/month/year

   * Please delete as appropriate.

3. How difficult do you find the subject indexes to use?

   - difficult ☐
   - moderately difficult ☐
   - no strong impression ☐
   - moderately easy ☐
   - easy ☐

4. Do you consider that the terminology of the subject index headings is sufficiently up to date?

   - Yes ☐
   - No ☐

   If not, please give examples of outdated headings.

5. Do you find that some of the subject indexes headings overlap? Yes ☐ No ☐

If you do, please give examples of any overlapping headings.

6. Do you normally consult the 'see also' references under the subject index headings? Yes ☐ No ☐

7. Do you consider that the 'see' and 'see also' references in the subject index are adequate? Yes ☐ No ☐

If not, please give examples:

8. Do you ever use the structured list of subject headings (gold pages) at the front of the subject index? Yes ☐ No ☐

If you do, how useful do you find it?

useful ☐

moderately useful ☐

no strong impression ☐

of little use ☐

of no use ☐

9. Of the possible ways of scanning the entries under a subject heading, which one, or combination of those listed below do you use?

- ☐ make use of the alphabetical arrangement of first words (i.e. search for a particular first word)
- ☐ scan all the initial words (i.e. to find which word is useful)
- ☐ scan all the entries under the heading
- ☐ some other way (please describe)

10. Do you find that the number of entries under the headings you use is, in general:

- too few ☐
- reasonable ☐
- too many ☐

11. What additional information, if any, would you find useful in the subject indexes?

- ☐ language
- ☐ author
- ☐ source journal
- ☐ bibliographic form (e.g. patent, report journal paper, etc.)
- ☐ treatment (e.g. theory, experimental, etc.)
- ☐ geographical location
- ☐ other (please state)

12. The total subject field of Science Abstracts is at present divided into three parts, A, B,C. Would you prefer

☐ the three parts to be unified

☐ *further or alternative divisions to be made

☐ the allocation of parts to remain as at present

If * please suggest any alternatives

13. Which, if any, of the additional indexes to the abstracts journals (i.e. other than subject and author) do you find useful?

14. Are there any other changes or improvements you would like to see made to the indexes?

Part B Abstracts and Indexes in General

15. Please list any other abstracts journals or indexes (printed or on cards) which you use.

16. For the publication you use most frequently (Science Abstracts or a publication listed in question 15) please indicate which you consider its good (+)and bad (-) characteristics for your use - leaving it blank where you have no strong views.

Publication used most frequently .....

(i) suitability of subject coverage ☐

(ii) currency (the index and items referred to are sufficiently up to date) ☐

(iii) accuracy (of indexes and items referred to) ☐

(iv) ease of use of index ☐

(v) layout of index ☐

(vi) suitability of subject index headings ☐

(vii) notification of changes in subject index heading ☐

(viii) cross-references in the subject index ☐

(ix) availability of other aids (e.g. thesaurus, classified subject headings, etc.) ☐

(x) probability of finding all the relevant information contained in the index. ☐

(xi) probability of retrieving non-relevant information ☐

(xii) availability of additional indexes (e.g. author, conference, report number, etc.) ☐

(xiii) availability of cumulative indexes ☐

(xiv) confidence that you do not need to search the index any further ☐

(xv) please state any other characteristics ☐

Date ..... Signed .....

We are most grateful for your help.

Please return the form to:

The Secretary
The Institution of Electrical Engineers
Savoy Place
London WC2R OBL

APPENDIX 5
LETTER TO SCIENTIFIC AND TECHNICAL STAFF INVITING PARTICIPATION

INSPEC
The Institution of Electrical Engineers
Savoy Place London WC2R 0BL Tel: 01-240 1871 – Telex 261176
Grams: Voltampere London Telex – Cables: Voltampere London WC2

Dear Sir,

As part of our OSTI-supported research and development programme we are investigating the use, acceptability and performance of the printed indexes to our abstracts journals.

We would appreciate your completing one of the enclosed questionnaires and circulating the others to any members of your organisation who carry out literature searches using the indexes to Science Abstracts.

We should be most grateful if you would help us in our study and encourage your colleagues to do so too.

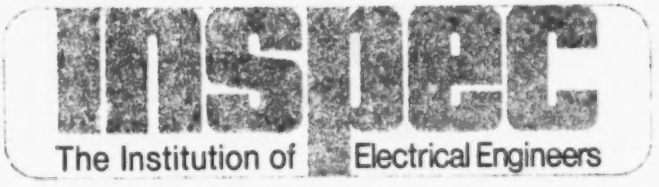
Yours faithfully,

A.M. Hall (Miss)
Information Research Assistant

Encs.

APPENDIX 6

LETTER INVITING PARTICIPATION OF TECHNICAL AND SCIENTIFIC STAFF THROUGH LIBRARY SUBSCRIBERS



Savoy Place London WC2R 0BL Tel: 01-240 1871 - Telex 261176
Grams: Voltampere London Telex - Cables: Voltampere London WC2

Dear Sir,

As part of our OSTI-supported research and development programme we are investigating the use, acceptability and performance of the printed indexes to our abstract journals, and we would be grateful for your assistance in our study.

We enclose a few questionnaires which we would like completed by any members of the scientific or technical staff of your organisation who carry out literature searches using the indexes to Science Abstracts. You will, no doubt, know how best to approach the users of your library.

In addition we enclose two more detailed questionnaires for assessment by information or library staff which we would like you or your library staff to complete.

We should be most grateful if you would help us by completing the questionnaire and by encouraging your colleagues to do so too.

Yours faithfully,

A.M. Hall (Miss)
Information Research Assistant

Encs.

Subscriptions to individual abstracts journals and indexes by the type of organisation.

	Percentage of the total number of respondents in each type of organisation						
	Academic Institution	Professional Institution	Public Library	Research Assoc.	Government & Quasi-Gov.	Industrial Organisation	Other
Applied Science and Technology Index	23	50	75	17	18	26	50
British Technology Index	54	5	96	33	29	46	
Computer Abstracts	28	25	25	33	29	18	
Computer and Control Abstracts	59	75	54	83	41	43	
Computing Reviews	31	50	-	-	29	23	
Electrical & Electronics Abstracts	69	50	79	67	47	69	50
Electrical Research Assc(ERA) Weekly	10	-	8	67	29	18	
Engineering Index	59	50	79	33	41	38	
International Aerospace Abstracts	15	-	8	-	29	18	
Nuclear Science Abstracts	36	-	38	-	24	26	100
Physics Abstracts	69	50	54	67	35	56	50
Scientific & Technical Aerospace Reports	24	-	21	33	47	23	
U.S. Government Research & Dev. Reports (Gov. Reports Announcements)	41	-	42	83	41	51	50
Internal Index	5	50	4	33	35	41	

USER COMMENTS ON PARTICULAR POINTS OF THE CLASSIFICATION

1. 'Queueing theory' and 'Game theory' should not be under 'Probability and statistics'.

2. 'Linear programming' should not come under 'Optimisation techniques'. (It is under Mathematical programming).

3. 'Dynamic programming' should have its own code.

4. The distinction between 60-Mathematical Techniques and 82-Numerical Analysis is rather arbitrary.

5. 'Filtering' should not come under 'Information Theory'.

USER COMMENTS ON PARTICULAR SUBJECT INDEX HEADINGS OR LACK OF HEADINGS

1. A probably unavoidable overlap between 'Spectra', 'Spectrometry'. 'Spectrophotometry' and 'Spectroscopy'.

2. Partial overlap of 'Nuclear structures' and 'Nuclear energy level'.

3. Overlap of 'Overhead cables' and'Power cables'.

4. Overlap of 'Plastics' and 'Insulating materials'.

5. Overlap of 'Measurement' and 'Metering'.

6. IR technology needs improvement.

7. Overlap of 'Wideband amplifiers', 'Amplifiers' and 'A.C. Amplifiers'.

8. Use of 'Systems' and 'Equipment' for the same thing.

9. Overlap of 'Power plant' and 'Power station'.

10. Overlap of 'Data transmission', 'Telemetering', 'Telephone' and 'Telegraph'.

11. Overlap of the headings 'Counters/Cherenkov' and 'Cosmic rays/apparatus' but the articles thus indexed are different.

12. Overlapping of 'Insulation', 'Cable insulation, 'Paper'.etc.

13. There is no entry for 'Correlation' as applied to spectrometry.

14. 'Homopolar' could make a useful heading or entry point.

15. It is found inconsistent that gas blast circuit breakers are under 'Circuit breakers' but air blast circuit breakers have their own headings.

16. Would like a subject heading 'Statistical data'.

17. Could 'Colour television' be broken down in the same way as 'Television'.

18. Index headings for specific manufacturers and/or computers e.g. CDC, IBM, or IBM/360, CDC 6000 - CYBER instead of 'Digital Systems', 'General purpose Computers'.

19. More specific direct headings e.g. 'Cherenkov Counters' not 'Counters/Cherenkov' or 'Cosmic Rays/Apparatus'.

USER COMMENTS ON PARTICULAR CROSS REFERENCING POINTS

1. A cross reference from 'Solid state rectifiers' to 'Thyristor applications' is needed.

2. There should be a cross reference between 'AC amplifiers' and 'Wide-band amplifiers'.

3. A reference is needed from 'Surge protection' to 'Transients' of 'Surges' see 'Transients' (note 'Surges' and 'Surge protection', do not fall consecutively in the alphabetical arrangement)

4. Cross references are needed for 'Overvoltage protection' and 'Overvoltage' to 'Transients' and 'Surge protection'.

5. A cross reference from 'Cherenkov Telescopes' to 'Cosmic rays/apparatus' is needed. Also a reference from 'Telescopes' to 'Cosmic rays/apparatus'. In this last case the reference given to 'Radioastronomy' and then 'Cosmic radiation' which is misleading.

6. A reference 'Slip ring motors' to 'Induction motors' is needed.

7. More cross references between pure and applied science would help.

8. Cross references are needed between the following:

   Locomotives and Traction
   Education and Training
   Accidents/Explosives/Safety and Fires
   Transportation and Vehicles
   Vehicles, electric see

USER COMMENTS ON DISCREPENCIES IN INDEXING

1. Scr's should be indexed also under 'Thyristor applications' as there is no cross reference from 'Solid state rectifiers' to 'Thyristor applications' (e.g. SA(B) 0-33549)

2. Not all thyristors used in semiconductor switches are indexed under <u>both</u> 'Semiconductor switches' and 'Thristor applications' (e.g. SA/B 0-33549 and 0-35213)

3. Not all thyristor tetrode switches are indexed under 'Thyristor tetrode switch' as well as 'Tetrode'.

4. Some of the initial words of modifiers are meaningless, e.g. new, special and static in the case of static Ward Leonard under 'Thyristor applications'.

5. As there is no cross reference between 'AC amplifiers' and Wide-band amplifiers' items should be indexed under both where appropriate, e.g. SA(B) 0-31408.

6. Not all items under 'Overvoltage' are indexed under 'Transients' when it is appropriate.

7. There is a see reference from 'Television colour' to Colour television' but some articles on colour television are indexed only under 'Television' and its associated headings but not under 'Colour television' (e.g. Monolithic 45 MHz colour TV receivers 0-6583 indexed under 'Television receivers' and 'Colour television' but not 'Colour television receivers'.)

8. There is a heading 'Dipole antennas' but a number of items in SA(B) 1970 pt II are indexed under 'Antenna arrays' with initial word 'dipole' and not under 'Dipole antennas'.

9. Classification - SA(C)6 (61) 1971
Abstracts 9442 expect reference under 92
9444 " " " 62
9459 " " " 60.10
Also abstracts 9416, 9420, 9428 and 9484.

10. SA(B) 1968 pt II. Two similar abstracts 25439 and 25438 both indexed under 'Regulation' but only one under 'Machine DC Speed control'.

USER COMMENTS ON THE CLASSIFICATION IN GENERAL

1. Suggest using ANSI report 'Glossary of Information Processing' for keeping up to date on terminology.

USER COMMENTS ON THE SUBJECT INDEX HEADINGS IN GENERAL

1. Changes make retrospective searching difficult.

2. They are neither up to date nor outdated, since they tend not to include the specific headings which reflect modern developments

3. Generally have to search 2-3 headings because of not being sure where a topic will appear.

4. Overlapping is inevitable.

5. Overlap slight.

6. Sub-headings are lacking under general headings.

7. More entries per item.

8. More see references
More see also references

9. Narrower subject headings needed.

10. More subject headings.

11. Too many sub-headings.

12. Not up-to-date terminology

13. Cross references from specific terms to more general headings.

USER COMMENTS ON MODIFIER LINES

1. Value ranges where important to the article would help.

2. Would prefer title to modifier

3. Initial words not 'sought headings'

4. Initial words helpful

5. Year denoted by 2 digits instead of one would help

USERS COMMENTS ON LAYOUT

1. Not enough emphasis on volume number and year (Presumably in index).
   List of abstract range-issue in index.

2. Should be made clear what the sectional index is.

3. Can the explanation of the year code before the abstract no. in cumulative index to be made more obvious.

4. More space between the lines.

APPENDIX 9

INDEXES PROVIDED BY ABSTRACTS JOURNALS

Type of Index	Nuclear Science Abstracts	Scientific & Technical Aerospace Reports	International Aerospace Abstracts	U.S. Gov. Research Development Reports	Science Abstracts
Accession number index		✓	✓	✓	
Bibliography index					✓
Book Index					✓
Conference index					✓
Contract number index		✓	✓	✓	
Contributing agency index	✓				
Corporate author index	✓	✓		✓	
Personal author index	✓	✓	✓	✓	✓
Report sponsor index					✓
Report number index	✓	✓	✓		
Subject index	✓	✓	✓	✓	✓

APPENDIX 10

ADDITIONAL OUTSTANDING INDEX CHARACTERISTICS

Publication	Characteristic
Applied Science and Technology Index	Useful for subjects not directly in our usual field of interest.
British Technology Index	References too brief
Computing Reviews	Bad binding of the subject indexes. High quality critical abstracts.
Engineering Index	Backed by searchable tapes. Alphabetical subheadings are a good feature. Geographical subheadings useful. Foreign language titles coupled with poor layout make searching difficult. The reference from the index to text by page number is convenient.

APPENDIX 11

INDEXES OR ABSTRACTS JOURNALS IN OTHER SUBJECT FIELDS THAT ARE ATTRACTIVE/USEFUL

Indexes or Abstracts Journals	Frequency of Citation
Analytical Abstracts	1
ANBAR Management Services Abstracts	3
Applied Mechanics Reviews	2
Automobile Abstracts	2
Bibliographic Index	1
Biological Abstracts	2
British Humanities Index	7
British Non-Ferrous Metals Research Association Abstracts	1
British Shipbuilding Research Association Abstracts	1
British Technology Index	1
Business Periodicals Index	1
Chemical Abstracts	29
Chemical Titles	1
Current Contents	2
Fire Research Abstracts and Reviews	1
Fuel Abstracts	4
Gas Abstracts	1
Highway Research in Progress	1
Index Aeronautics	1
Index Medicus	2
Iron & Steel Institute Abstracts	4
Management Abstracts	3
Mathematical Reviews	1
Metals Abstracts	7
Metron (Instrument Abstracts)	1
NLL Announcements Bulletin	1
NLL Index of Conference Proceedings	2
Nuclear Science Abstracts	1
Operations Research/Management Science Abstracts Service	1
Photographic Abstracts	1
Plant Breeding Abstracts	1

Indexes or abstracts journals	Frequency of Citation
Review of Plant Pathology	1
Rubber Abstracts	2
Science Citation Index	7
Serve-mechanism Bulletin of Automatic and Manual Control Abstracts	1
Thermal Abstracts	1
Water Pollution Abstracts	1
World Textile Abstracts	2

APPENDIX 12

ATTRACTIVE/USEFUL CHARACTERISTICS OF ABSTRACTS JOURNALS AND INDEXES

(Suitable coverage not listed)

Publication	Reason (frequency of citation)	
ANBAR Management Abstracts	(i)	Articles of trivial importance seem to have been excluded
	(ii)	A critical aspect which enables users to judge whether to pass over the article or to ask for it
	(iii)	Current
	(iv)	Good layout
Automobile Abstracts	(i)	Selective abstracting
	(ii)	Informative abstracts
Biological Abstracts	(i)	KWIC index
	(ii)	Good subject order of abstracts.
British Humanities Index	(i)	Author index (3)
	(ii)	Good layout (2)
	(iii)	Subject headings good
	(iv)	Subject indexing good (2)
British Non-Ferrous Metals Abstracts	(i)	Good layout
Chemical Abstracts	(i)	Comprehensiveness (7)
	(ii)	Wide subject coverage (4)
	(iii)	Patent coverage
	(iv)	Ease of use of index
	(v)	All references gathered in to appropriate groups with cross references to them
	(vii)	Detailed abstracts (2)
	(viii)	Information abstracts
	(ix)	Good indexes (4)
	(x)	Full indexing
	(xi)	Cross references
	(xii)	Easy to read titles, highly commendable briefness
	(xiii)	Currency (2)

Publication	Reason	
Chemical Abstracts (contd.)	(xiii)	Frequency of subject indexes
	(xiv)	Collective indexes; report patent formula etc. (3)
	(xv)	Patent concordance
	(xvi)	Index guide
	(xvii)	Completeness of indexes
	(xviii)	Cumulative indexes (if they were not so expensive) (3)
	(xix)	Frequent cumulations (2)
	(xx)	Key to source literature (ACCESS)
	(xxi)	Natural language
	(xxii)	Tapes
Highway Research in Progress (Highway Research Board)	(i)	Keyword indexes
	(ii)	Includes work in progress costs of work in progress.
Index Medicus	(i)	Clear and concise headings
	(ii)	Presentation
	(iii)	Comprehensive
	(iv)	Up-to-date
Iron and Steel Institute Abstracts Card Service	(i)	Available on 5" x 3" cards
Management Abstracts	(i)	Ease of consultation (2)
Mathematical Reviews	(i)	Comprehensiveness
Metals Abstracts	(i)	Detailed monthly index
	(ii)	Rapid annual cumulative index
	(iii)	Good indexing
	(iv)	Good presentation of bibliographic details
NLL Index to Conference Proceedings	(i)	Keyword principle

Publication	Reason	
Operations Research	(i)	Loose leaf with filing alternative
	(ii)	Highly informative entries giving purpose, summary, results and references.
Plant Breeding Abstracts	(i)	Unambiguous indexing
RAPRA Abstracts	(i)	Easy to read titles
	(ii)	Highly commendable briefness.
Review of Plant Pathology	(i)	Unambiguous indexing.
Science citation Index	(i)	Very high relevance
	(ii)	Ability to go forward in time
	(iii)	Forward searching
	(iv)	It offers a different approach to retrieval other than through subject indexes.
World Textile Abstracts	(i)	Comprehensive
	(ii)	Good quality indexing.

FREQUENCY OF USE OF SCIENCE ABSTRACTS INDEXES BY TYPE OF ORGANISATION

	Total number of Respondents	Daily	Weekly	Monthly	Less than once a month
Academic Institutions	33	0	13	14	6
Professional Insts.	3	2	0	1	0
Public Libraries	23	2	9	7	5
Research Associations	4	0	2	1	1
Government & Quasi-Governmental Establishments	11	0	5	5	1
Industrial Organisations	31	5	10	8	8
Other	1	1	0	0	0

APPENDIX 14

RELATIONSHIP BETWEEN FREQUENCY OF USE AND EASE OF USE OF THE INDEXES

Frequency of use	Ease of use (Within each frequency group the percentage experiencing each degree of difficulty)				
	Difficult	Moderately difficult	No strong impression	Moderately easy	Easy
Daily	6	28	17	33	17
Weekly	3	18	20	35	25
Monthly	3	28	13	45	13
Less than once a month		7	21	46	25

APPENDIX 15

RELATIONSHIP BETWEEN USE OF THE CROSS REFERENCES AND EASE OF USE OF THE INDEXES

Use of cross references	Ease of use (Within the individual groups of users and non-users the percentage experiencing each degree of difficulty)				
	Difficult	Moderately Difficult	No strong impression	Moderately Easy	Easy
Yes	3	20	15	39	21
No		12.5	12.5	25	25

APPENDIX 16

RELATIONSHIP BETWEEN USE OF THE STRUCTURED LIST OF INDEX HEADINGS AND FREQUENCY OF USE OF THE INDEXES

Use of structured list	Frequency of use of indexes			
	Daily	Weekly	Monthly	Less than once a month
Yes	73%	45%	63%	61%
No	27%	55%	37%	39%

APPENDIX 17

RELATIONSHIP BETWEEN THE USE MADE OF THE STRUCTURED LIST OF INDEX HEADINGS AND EASE OF USE OF THE INDEXES

Use of the structured list of index headings	Ease of Use of the Indexes				
	Difficult	Moderately Difficult	No strong impression	Moderately Easy	Easy
Yes	3	18	8	29	15
No	1	10	13	19	11
Usefulness					
Useful	0	8	5	9	7
Moderately useful	0	5	2	11	2
No strong impression	0	2	1	4	4
Of little use	0	2	0	0	0
Of no use	0	0	0	0	0

APPENDIX 18

RELATIONSHIP BETWEEN THE USE MADE OF THE WORDS OF MODIFIER LINES AND THE ASSESSMENT OF THE NUMBER OF ENTRIES PER HEADING

Use of key words of modifier lines	Assessment of entries per heading		
	too few	reasonable	too many
Some use	0	45	14
No use	3	47	19

APPENDIX 19

USER SUGGESTIONS FOR ADDITIONAL INFORMATION IN THE SUBJECT INDEXES

1. Length of article
2. Number of citations
3. Date of article if outside the period covered by the index
4. Report number
5. CODEN of source journal

SUGGESTIONS FOR ALTERNATIVE DIVISIONS OF THE SUBJECT FIELD OF SCIENCE ABSTRACTS

Suggested Divisions	Frequency of suggestion
As separate sections	
solid state physics	3
nuclear and atomic physics	2
astro-physics	1
Split SA(B) into (i) electrical power/heavy engineering and (ii) electronic engineering	8
Split SA(B) into (i) systems engineering and (ii) device engineering	1
Split SA(C) into (i) computers and (ii) control	5
Have two publications one aimed at the academic the other practical	1
Combine SA(B) and SA(C)	4

APPENDIX 21

USER SUGGESTIONS FOR ADDITIONAL INDEXES

1. Report number index
2. Corporate author index
3. Patent index arranged by company
4. Patent concordance
5. Acronym index
6. Index to equipment and named methods
7. Index to the abstract content of each issue
8. Source journal index listing abstract numbers
9. Alphabetical listing of subject headings